Adjunctive Use of Thoracic Stent Cuffs to Treat Infrarenal Aortic Necks Too Large for Standard EVAR

Michael Wilderman[a], Gregory Simonian[a], Michael Curi[b], David O'Connor[a], Massimo Napolitano[a]. [a]Hackensack University Medical Center, Hackensack, NJ; [b]University of Medicine and Dentistry of New Jersey, Newark, NJ

Objectives: To evaluate early outcomes and short-term durability of thoracic stent cuffs in patients with abdominal aortic aneurysms (AAA) and infrarenal necks too large for standard endovascular aneurysm repair (EVAR) who were symptomatic, not suitable for open surgery, and could not wait for a custom fenestrated device to be created.

Methods: From July 2010 to December 2012, 13 patients with juxta- or pararenal AAA underwent endovascular repair with thoracic aortic endografts as proximal aortic cuffs in conjunction with standard EVAR devices. The patients were symptomatic and were deemed unfit for open surgery due to severe cardiopulmonary and/or renal comorbidities. All patients had infrarenal neck diameters greater than the indications for use for standard aortic endografts. Primary end points were technical success (as defined by aneurysm exclusion without endoleak), follow-up aneurysm exclusion by computed tomographic angiogram, and 30-day and long-term mortality.

Results: Thirteen patients (10 men, 3 women) with a mean age of 77.1 years underwent EVAR who presented with symptomatic juxta- or pararenal abdominal aortic aneurysms. The mean aneurysm size was 7.2 cm, and the mean infrarenal aortic neck diameter was 35.5 mm measured by centerline analysis. Technical success was achieved in 100% of cases. The 30-day mortality was 8% (one of 13 patients). At a mean follow-up of 524 days, there have been no endoleaks or other aneurysm related mortalities. There was one death due to stroke at 605 days postop.

Conclusions: Complex endovascular repair of juxta and pararenal AAA using thoracic stents cuffs can be safely and successfully performed in symptomatic patients medically unfit for open repair. Using thoracic stent cuffs below the visceral vessels may reduce the complexity and possibly the risk of repair when compared with fenestrated endografts. These techniques can be used for urgent and emergent cases where the wait time for fenestrated technology is prohibitive. Although our results have demonstrated short-term success, long-term durability of this technique with further evaluation is required.

Clinical Impact of Isolated Infrarenal Aortic Stenosis

Rafael D. Malgor[a], Nicos Labropoulos[a], Marc Borge[b], Celso Dias[c], Peter Pappas[d], Apostolos Tassiopoulos[a]. [a]Stony Brook University Medical Center, Stony Brook, NY; [b]Loyola University Medical Center, Chicago, Ill; [c]The Aroostok Medical Center, St. Presque Isle, Me; [d]The Brooklyn Hospital Center, New York, NY

Objectives: To evaluate the clinical characteristics and treatment outcomes in patients with isolated infrarenal aortic stenosis

Methods: Consecutive patients with isolated infrarenal aortic stenosis who presented with claudication or lower extremity distal embolization were included. Patients with concomitant disease in the iliac and lower extremity arteries and those with less than 2-year follow-up were excluded. Clinical presentation, risk factors, and endovascular treatment were recorded. Clinical evaluation, duplex ultrasound, and ankle-brachial index were performed at 1, 6, 12 months, and annually thereafter.

Results: There were 51 patients with aortic stenosis of whom 34 did not fulfill the inclusion criteria leaving 17 for analysis. These were all females, mean age 44 years, range 37-49. All but one patient had three or more risk factors. Fifteen patients had claudication and seven presented with distal embolization. The lesion length was 4 cm in two patients. Seven patients underwent transluminal balloon angioplasty, five had angioplasty followed by stenting, and five had primary stenting. Procedural complications developed in three patients at the access site. After intervention, the pressure gradient across the stenotic area was significantly improved in all patients (49 ± 11.6 mm Hg vs 6.3 ± 2 mm Hg; $P < .001$). Postoperative ankle-brachial index was improved in all patients (mean preoperative 0.66 ± 0.07 vs postoperative 0.92 ± 0.06; $P < .001$). The mean follow-up was 3.7 years, range 2-7. Two patients required reintervention with balloon angioplasty at 4 and 5 years and a third one angioplasty plus stenting at 3 years. None of the 17 patients developed life style limiting claudication or distal embolization.

Conclusions: Symptomatic isolated infrarenal aortic stenosis is rare but may be found in young females who have at least three cardiovascular risk factors present. Balloon angioplasty alone or angioplasty plus stenting are effective treatments with high success and low complication rates in this cohort of patients

Similar Outcomes in African American Compared with Caucasian Men with Chronic Limb Ischemia in an Equal Access to Care Setting

Hasan H. Dosluoglu[a], Raphael Blochle[b], Linda M. Harris[b], Maciej L. Dryjski[b]. [a]VA Western NY Healthcare System, SUNY at Buffalo, Buffalo, NY; [b]SUNY at Buffalo, Buffalo, NY

Objectives: African Americans (AA) with symptomatic peripheral arterial disease (PAD) have been reported to have less revascularization attempts and poorer patency and limb salvage rates. The goal of this study is compare the outcomes in AA and Caucasian (CAU) men with chronic limb ischemia in a setting with equal access to care.

Methods: All AA and CAU men who were treated for symptomatic PAD between November 2003 and June 2012 were included.

Results: Of the 838 men (1072 limbs), 108 were AA (139 limbs) and 730 were CAU (933 limbs). AA were more likely to have insulin dependent diabetes mellitus (IDDM), hypertension, dialysis-dependence, lower albumin levels, and critical limb ischemia (CLI) (73% vs 61%, $P = .006$) whereas CAU had more coronary artery disease, dyslipidemia, chronic obstructive pulmonary disease, and were older. Type of revascularization, and primary amputation rates (9% vs 7%; $P = .4$) were similar between groups. Infrapopliteal interventions were more frequent in AA (47% vs 28%; $P < .001$). Perioperative morbidity and mortality were similar. Patency rates, limb salvage, and survival were similar in AA and CAU who underwent open, or endovascular revascularization (mean follow-up, 31.5 months) (Table). IDDM, gangrene, poor functional capacity, and dialysis-dependence independently predicted limb loss in multivariate analysis, whereas race did not.

Conclusions: In an equal access to care setting, similar outcomes can be achieved in AA men with symptomatic PAD, despite poorer functional status, higher rates of dialysis-dependence, IDDM, and more frequent infrapopliteal interventions.

Is Intramural Thrombus Protective and/or Predictive of Type II Endoleak in Patients Undergoing EVAR?

Sam Tyagi, Shinichi Fukuhara, Stephen Haveson. Beth Israel Medical Center, New York, NY

Table. Patency rates, limb salvage, survival, and amputation-free survival in AA and CAU groups

	PP 12/36 months	*SP 12/36 months*	*LS 12/36 months*	*Survival 12/36 months*	*AFS*
AA(n = 108)	77 ± 4%/70 ± 5%	90 ± 1%/84 ± 2%	84 ± 4%/79 ± 5%	80 ± 3%/67 ± 4%	66 ± 5%/56 ± 5%
CAU (n = 730)	78 ± 2%/68 ± 2%	90 ± 3%/84 ± 4%	90 ± 1%/86 ± 2%	80 ± 1%/64 ± 2%	66 ± 2%/46 ± 2%
P	.845	.736	.078	.865	.412
AA endo (n = 97)	78 ± 5%/71 ± 6%	89 ± 4%/84 ± 5%	84 ± 5%/77 ± 6%	79 ± 4%/65 ± 5%	62 ± 6%/51 ± 6%
CAU endo (n = 696)	80 ± 2%/66 ± 2%	89 ± 1%/84 ± 2%	90 ± 2%/86 ± 2%	82 ± 2%/64 ± 2%	66 ± 2%/45 ± 3%
P	.427	.775	.066	.561	.660
AA open (n = 31)	75 ± 8%/68 ± 10%	90 ± 6%/83 ± 8%	84 ± 9%/84 ± 9%	87 ± 6%/80 ± 9%	79 ± 9%/69 ± 12%
CAU open (n = 196)	80 ± 3%/69 ± 4%	87 ± 3%/80 ± 4%	92 ± 3%/85 ± 4%	81 ± 3%/70 ± 4%	68 ± 4%/52 ± 5%
P	.450	.748	.705	.504	.269